

CLAIMS

1. A recovery device for use in a confined space, said device comprising (a) a plurality of gripping means and (b) extension means, said plurality of gripping means being comprised in the same member or in adjacent members.
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2. A recovery device as claimed in claim 1 wherein said plurality of gripping means comprise first gripping means and second gripping means.
- 10 3. A recovery device as claimed in claim 2 wherein said first gripping means comprises a cylindrical device.
4. A recovery device as claimed in claim 3 wherein said cylindrical device is in the form of a sleeve adapted to encompass and engage with a container.
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5. A recovery device as claimed in any one of claims 1 to 4 which comprises engaging means.
- 20 6. A recovery device as claimed in claim 5 wherein said engaging means comprises elongated members incorporating pivoting means.
7. A recovery device as claimed in claim 6 wherein said elongated members incorporating pivoting means comprise long blades which include pivot points for a plurality of fingers which can engage with a container.
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8. A recovery device as claimed in any one of claims 2 to 7 wherein said second gripping means comprises a movably mounted flexible arm incorporating said gripping means.

9. A recovery device as claimed in claim 8 wherein said second gripping means comprises a movably mounted flexible arm incorporating gripping means in the form of a grab or gripper.
- 5 10. A recovery device as claimed in any one of claims 2 to 9 wherein said second gripping means is rotatably mounted.
11. A recovery device as claimed in claim 10 wherein said second gripping means is rotatably mounted within said first gripping means or adjacent said first gripping means.
- 10 12. A recovery device as claimed in any one of claims 2 to 11 wherein said second gripping means comprises a flexible arm mounted inside a sleeve comprised in said first gripping means.
- 15 13. A recovery device as claimed in any one of claims 2 to 12 wherein said second gripping means comprises a manipulator arm.
14. A recovery device as claimed in claim 13 wherein the end of said manipulator arm comprises an effector.
- 20 15. A recovery device as claimed in claim 14 wherein said effector comprises a grab or gripper.
- 25 16. A recovery device as claimed in claim 14 or 15 wherein said effector additionally comprises a small wire cutter.
17. A recovery device as claimed in any preceding claim which additionally comprises collection means for loose and particulate debris collected by said second gripping means.
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18. A recovery device as claimed in claim 17 wherein said collection means comprises a container.
19. A recovery device as claimed in claim 18 wherein said container is removably mounted on said first gripping means.
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20. A recovery device as claimed in claim 19 wherein said container comprises a removable pouch mounted inside a sleeve which is comprised in said first gripping means.
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21. A recovery device as claimed in any one of claims 17 to 20 wherein said collection means additionally comprises containment means designed to ensure that collected debris cannot fall out of said collection means.
- 15 22. A recovery device as claimed in claim 21 wherein said containment means includes a spring-loaded closure.
23. A recovery device as claimed in any preceding claim wherein said extension means comprises means by which the first and second gripping means may be manoeuvred within a confined space.
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24. A recovery device as claimed in any preceding claim wherein said extension means comprises a winch mechanism, an umbilical device or a telescopic mast.
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25. A recovery device as claimed in any preceding claim which comprises a small, limited degree of freedom manipulator arm located within a cylindrical sleeve and removable debris pouches attached to the inside walls of the sleeve in which loose debris may be collected.

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26. A recovery device as claimed in any preceding claim which comprises a tubular element comprising an outer sleeve having sides which incorporate long windows, said outer sleeve being fitted at its lower end with long blades and pivot points for a plurality of fingers, said blades being of such dimensions as to fit down the gap between the outside of a drum and the inside of a mortuary tube.
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27. A method for the recovery of waste materials, said method comprising the recovery of said materials by the use of a recovery device according to any one of claims 1 to 26.
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